

Notice of Allowability

Application No.

10/615,492

Examiner

Jaison P. Thomas

Applicant(s)

WONG ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 7/7/2003.
2. ☒ The allowed claim(s) is/are 49-85.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 1/20/2004
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


Mark Kopec
Primary Examiner

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group III, Claims 49-85, and election of Species II, multi-walled nanotubes, in the paper dated 2/13/2006 is acknowledged.
2. Upon careful consideration, the species requirement between Species I, single-walled nanotubes and Species II, multi-walled nanotubes is withdrawn.

EXAMINER'S AMENDMENT

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Cancel non-elected claims **1-48**.

In Claim **49**, line 2, delete "attaches" and replace with --ionically links--.

In Claim **69**, line 6, after "macrocyclic molecule adducts" add --wherein said macrocyclic molecules are ionically linked to said carbon nanotubes,--.

In Claim **76**, line 1, delete "Claim 32" and replace with --Claim 75--.

In Claim **77**, line 5, after "having an average first diameter," add --wherein said macrocyclic molecules form ionic linkages with the nanotube bundles--.

In Claim **79**, line 1, delete "Claim 35" and replace with --Claim 77--.

In Claim **80**, line 5, after "resultant dispersion comprising nanotube-crown ether adducts," add --the said crown ethers being ionically linked to said carbon nanotubes,--.

In Claim **82**, line 1, delete "Claim 80" and replace with --Claim 81--.

In Claim **85**, line 2, after "carbon nanotube and a functionalized crown ether," add -- the said crown ether being ionically linked to said carbon nanotube,--.

Authorization for this examiner's amendment was given in a telephone interview with Susan Sipos on 5/1/2006.

4. The following is an examiner's statement of reasons for allowance: Borudnov teaches the covalent linkage of a macrocycle to a substrate (pg. 1, Abstract) where the substrate could be a carbon nanotube (pg. 3, para. 0033) but it does not teach nor does it reasonably suggest ionic bonding between a macrocyclic molecule and a carbon nanotube. Further, while the art does suggest the usage of a covalent bond to attach a

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macrocycle to a carbon nanotube, there is no suggestion in the art to substitute this type of bond with an ionic bond.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure. The references are considered cumulative to or less material than those discussed above.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jaison P. Thomas whose telephone number is (571) 272-8917. The examiner can normally be reached on Mon-Fri 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas McGinty can be reached on (571) 272-1029. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JT

Jaison Thomas
Examiner
5/1/2006



Mark Kopec
Primary Examiner